

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ronald J. Kubovcik (Reg. No. 25,401) on May 12, 2011.

The application has been amended as follows:

In the claims:

1. (Currently Amended) An epoxy resin composition for carbon-fiber-reinforced composite materials, comprising the following components [A], [B], [C], [D] and [E]:

[A] epoxy resin,

[B] amine curing agent which is dicyandiamide,

[C] phosphorus compound,

[D] curing accelerator which is 1,1'-(4-methyl-m-phenylene)bis(3,3-dimethylurea) and,

[E] thermoplastic resin;

wherein component [C] is present in an amount such that the resin composition has a phosphorus atom concentration of 0.2 to 15% by weight; and

wherein components [A], [B], [C], [D], and [E] are present in amounts such that the combined amount of components [A], [B], [C], [D], and [E] is at least 95% by weight, based on the overall resin composition.

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2. (Currently Amended) The epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 1, wherein the resin composition has a viscosity of 10 to 700 Pa's at 60°C.

3. (Currently Amended) The epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 1, wherein component [C] comprises red phosphorus.

4. (Currently Amended) The epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 3, wherein the red phosphorus is coated with a metal hydroxide, a resin or a combination thereof.

5-10. (canceled)

11. (Currently Amended) The epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 1, wherein the resin composition has a specific gravity of 1.35 or lower.

12. (Currently Amended) The epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 1, wherein the resin composition is capable of being cured within 30 minutes at 150°C.

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13. (Previously Presented) A prepreg, prepared by impregnating carbon fiber with the epoxy resin composition for carbon-fiber-reinforced composite materials according to claim 1.

14. (Currently Amended) The prepreg according to claim 13, wherein the prepreg has a fiber volume content of 30 to 95%.

15. (Currently Amended) The prepreg according to claim 13, wherein the prepreg is a woven prepreg or a unidirectional prepreg.

16. (Currently Amended) A fiber-reinforced composite material, prepared by laminating a plurality of prepreps according to claim 15 and curing said laminate.

17-49. (Canceled)

50. (New) A fiber-reinforced composite material, prepared by curing the prepreg according to claim 13.

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In the specification:

- Replace the abstract with:

-- The present invention provides a light-weight fiber-reinforced composite material that has excellent flame retardance and mechanical properties and never emits a halogen gas. The present invention also provides a prepreg and an epoxy resin composition suited to obtain the above described fiber-reinforced composite material. The present invention also provides an integrated molding which is produced using the above described fiber-reinforced composite material, thereby suitable for use in electric/electronic casings. The epoxy resin composition is such that it contains the following components [A], [B], [C], [D], and [E]: [A] epoxy resin, [B] amine curing agent, [C] phosphorus compound, [D] curing accelerator, and [E] thermoplastic resin, wherein the resin composition has a phosphorus atom concentration of 0.2 to 15% by weight.--

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DETAILED ALLOWANCE

Pending Claims

Claims 1-4, 11-16, and 50 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 28, 2011 has been entered.

Response to Amendment

2. The rejection of claims 1-4, 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (US Pat. No. 5,994,429) in view of Nawakowski et al. (US Pat. No. 3,386,956) has been overcome by amendment.

3. The rejection of claims 13-16 under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (US Pat. No. 5,994,429) in view of Nawakowski et al. (US Pat. No. 3,386,956) and Middleman (US Pat. No. 5,269,863) has been overcome by amendment.

Allowable Subject Matter

4. Claims 1-4, 11-16, and 50 are allowed.

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Election/Restrictions

5. This application is in condition for allowance except for the presence of claims 17-49 directed to inventions non-elected without traverse. Accordingly, claims 17-49 have been cancelled.

Summary of Changes in the Examiner's Amendment

6. The following is a summary of changes set forth in the Examiner's amendment:
- In claim 1, the phosphorus content limitation was amended to improve clarity. Paragraph 0070 of the corresponding pre-publication was used for guidance.
 - In claim 1, the [A-E] content limitation was amended to improve clarity. Paragraph 0099 of the corresponding pre-publication was used for guidance.
 - Claims 2-4, 11, 12, and 14 were amended to address minor wording issues. The changes were made to improve clarity.
 - Claim 15 was amended to feature the prepreg limitations discussed in paragraphs 0107-0108 of the corresponding pre-publication.
 - Claim 16 was amended to feature the composite material discussed in paragraphs 0107-0108 of the corresponding pre-publication.
 - Claims 17-49 were cancelled because they were withdrawn without traverse.
 - Claim 50 was added to feature the composite material discussed in paragraph 0115 of the corresponding pre-publication.
 - The abstract was amended into a single-paragraph. It also better reflects the claimed subject matter.

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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1761

May 13, 2011